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1-sst	16

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US Patents Full-Text Database  
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IBM Technical Disclosure Bulletins

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L3

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DATE: Wednesday, April 28, 2004   [Printable Copy](#)   [Create Case](#)

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result set

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<a href="#">L3</a>	1-sst	16	<a href="#">L3</a>
<a href="#">L2</a>	1-fructosyl adj transferase	1	<a href="#">L2</a>
<a href="#">L1</a>	1-fructosyltransferase	9	<a href="#">L1</a>

END OF SEARCH HISTORY

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NEWS 3 JAN 27 Source of Registration (SR) information in REGISTRY updated  
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NEWS 4 JAN 27 A new search aid, the Company Name Thesaurus, available in  
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NEWS 5 FEB 05 German (DE) application and patent publication number format  
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NEWS 11 MAR 29 No connect hour charges in WPIFV until May 1, 2004  
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NEWS 13 APR 26 PROMT: New display field available  
NEWS 14 APR 26 FIPAT/IFIUDB/IFICDB: New super search and display field  
available  
NEWS 15 APR 26 LITAlert now available on STN  
NEWS 16 APR 27 NLDB: New search and display fields available  
  
NEWS EXPRESS MARCH 31 CURRENT WINDOWS VERSION IS V7.00A, CURRENT  
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),  
AND CURRENT DISCOVER FILE IS DATED 13 APRIL 2004  
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FILE 'HOME' ENTERED AT 15:57:27 ON 28 APR 2004

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=>

=> s 1-fructosyl

L1 70 1-FRUCTOSYL

=> duplicate remove l1

DUPLICATE PREFERENCE IS 'AGRICOLA, BIOSIS, EMBASE, CAPLUS'  
KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n  
PROCESSING COMPLETED FOR L1

L2 44 DUPLICATE REMOVE L1 (26 DUPLICATES REMOVED)

=> s l2 and plant

L3 25 L2 AND PLANT

=> d l3 1-25 ti

L3 ANSWER 1 OF 25 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN

TI Inulin and oligofructose as dietary fiber: a review of the evidence.

L3 ANSWER 2 OF 25 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN

TI Sucrose assimilation during early developmental stages of chicory (*Cichorium intybus* L.) \*\*\*plants\*\*\*

L3 ANSWER 3 OF 25 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN

TI Cloning, developmental, and tissue-specific expression of sucrose:sucrose \*\*\*1\*\*\* - \*\*\*fructosyl\*\*\* transferase from *Taraxacum officinale*. Fructan localization in roots.

L3 ANSWER 4 OF 25 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN

TI De-novo synthesis of fructans from sucrose in vitro by a combination of two purified enzymes (sucrose: sucrose \*\*\*1\*\*\* - \*\*\*fructosyl\*\*\* transferase and fructan: fructan \*\*\*1\*\*\* - \*\*\*fructosyl\*\*\* transferase) from chicory roots (*Cichorium intybus* L.).

L3 ANSWER 5 OF 25 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN

TI Purification and characterization of wheat beta (2 leads to 1) fructan:fructan fructosyl transferase activity.

L3 ANSWER 6 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

TI Fructosyl transferase and hydrolase activities in rhizophores and tuberous roots upon growth of *Polymnia sonchifolia* (Asteraceae).

L3 ANSWER 7 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

TI Development of a flow-injection analysis (FIA) enzyme sensor for fructosyl amine monitoring.

L3 ANSWER 8 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

TI Determination of total N-nitroso compounds and their precursors in frankfurters, fresh meat, dried salted fish, sauces, tobacco, and tobacco smoke particulates.

L3 ANSWER 9 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

TI Effect of defoliation on fructan pattern and fructan metabolizing enzymes in young chicory \*\*\*plants\*\*\* (Cichorium intybus).

L3 ANSWER 10 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 TI Effect of nitrogen concentration on fructan and fructan metabolizing enzymes in young chicory \*\*\*plants\*\*\* (Cichorium intybus).

L3 ANSWER 11 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 TI Characterization of fructan oligomers from species of the genus Allium L.

L3 ANSWER 12 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 TI Effects of short-term phosphorus deficiency on carbohydrate storage in sink and source leaves of barley (Hordeum vulgare).

L3 ANSWER 13 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 TI Purification and substrate specificity of an extracellular fructan hydrolase from Lactobacillus paracasei ssp. paracasei P 4134.

L3 ANSWER 14 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 TI Seasonal variation of fructan-beta-fructosidase (FEH) activity and characterization of a beta-(2-1)-linkage specific FEH from tubers of Jerusalem artichoke ((Helianthus tuberosus).

L3 ANSWER 15 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 TI Purification and characterization of 1-SST, the key enzyme initiating fructan biosynthesis in young chicory roots (Cichorium intybus).

L3 ANSWER 16 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 TI REGULATION OF FRUCTAN BIOSYNTHESIS IN LEAVES OF CRESTED WHEATGRASS.

L3 ANSWER 17 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 TI RISE IN INULIN SENSITIVE B CELLS DURING ONTOGENY CAN BE PREMATURELY STIMULATED BY THYMUS DEPENDENT AND THYMUS INDEPENDENT ANTIGENS.

L3 ANSWER 18 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 TI PURIFICATION AND CHARACTERIZATION OF SUCROSE SUCROSE \*\*\*1\*\*\*  
 \*\*\*FRUCTOSYL\*\*\* TRANSFERASE FROM THE ROOTS OF ASPARAGUS ASPARAGUS-OFFICINALIS.

L3 ANSWER 19 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 TI SUCROSE SUCROSE \*\*\*1\*\*\* \*\*\*FRUCTOSYL\*\*\* TRANSFERASE ACTIVITY AND DORMANCY OF IN-VITRO GROWN JERUSALEM-ARTICHOKE TUBERS.

L3 ANSWER 20 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 TI ENZYMOLOGICAL ASPECTS OF DE-NOVO SYNTHESIS OF FRUCTO OLIGO SACCHARIDES IN LEAF DISCS OF CERTAIN ASTERACEAE PART 4 THE ACTIVITY OF SUCROSE SUCROSE \*\*\*1\*\*\* \*\*\*FRUCTOSYL\*\*\* TRANSFERASE.

L3 ANSWER 21 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN  
 TI Induction of 1-FEH in mature chicory roots appears to be related to low temperatures rather than to leaf damage

L3 ANSWER 22 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN  
 TI Cloning of a vacuolar invertase from Belgian endive leaves (Cichorium intybus)

L3 ANSWER 23 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

TI Fructo-oligosaccharides and other fructans: structures and occurrences, production, regulatory aspects, food applications and nutritional health significance

L3 ANSWER 24 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

TI Effect of osmolytes on the fructan pattern in feeder roots produced during forcing of chicory (*Cichorium intybus*)

L3 ANSWER 25 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

TI The metabolism of fructose polymers in \*\*\*plants\*\*\*  
Transfructosylation in tubers of *Helianthus tuberosus*

=> s l1 and parthenium  
L4 0 L1 AND PARTHENIUM

=> s l1 and helianthus  
L5 11 L1 AND HELIANTHUS

=> s l2 and helianthus  
L6 7 L2 AND HELIANTHUS

=> d l6 1-7

L6 ANSWER 1 OF 7 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved.  
(2004) on STN

AN 75:55298 AGRICOLA

DN 75-9056215

TI Sucrose-sucrose \*\*\*1\*\*\* - \*\*\*fructosyl\*\*\* transferase activity and dormancy of in vitro grown Jerusalem artichoke tubers  
Activite saccharose-saccharose \*\*\*1\*\*\* - \*\*\*fructosyl\*\*\* transferase dans des tubercules de topinambour ( \*\*\**Helianthus*\*\*\* tuberosus L.)  
cultives in vitro, en fonction de leur etat de dormance

AU Teppaz-Misson, C

AV DNAL (505 P21 (3))

SO C R Hebd Seances Acad Sci, Ser D Sci Nat, Apr 7, 1975 Vol. 280, No. 13, pp. 1567-1570. Eng. Sum.

DT Journal; Article

LA French

L6 ANSWER 2 OF 7 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

AN 2003:66979 BIOSIS

DN PREV200300066979

TI Fructosyl transferase and hydrolase activities in rhizophores and tuberous roots upon growth of *Polymnia sonchifolia* (Asteraceae).

AU Itaya, Nair Massumi; Machado de Carvalho, Maria Angela; Figueiredo-Ribeiro, Rita de Cassia Leone [Reprint Author]

CS Secao de Fisiologia e Bioquimica de Plantas, Instituto de Botanica de Sao Paulo, Caixa Postal 4005, CEP 01061-970, Sao Paulo, SP, Brazil  
ritarib@usp.br

SO Physiologia Plantarum, (December 2002) Vol. 116, No. 4, pp. 451-459.  
print.  
ISSN: 0031-9317 (ISSN print).

DT Article

LA English

ED Entered STN: 29 Jan 2003  
Last Updated on STN: 29 Jan 2003

L6 ANSWER 3 OF 7 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
AN 1997:217250 BIOSIS  
DN PREV199799523754  
TI Seasonal variation of fructan-beta-fructosidase (FEH) activity and  
characterization of a beta-(2-1)-linkage specific FEH from tubers of  
Jerusalem artichoke (( \*\*\*Helianthus\*\*\* tuberosus).  
AU Marx, Stefan P.; Nosberger, Josef; Frehner, Marco [Reprint author]  
CS Inst. Plant Science, Swiss Federal Inst. Technology, ETH-Zentrum, CH-8092  
Zurich, Switzerland  
SO New Phytologist, (1997) Vol. 135, No. 2, pp. 267-277.  
CODEN: NEPHAV. ISSN: 0028-646X.  
DT Article  
LA English  
ED Entered STN: 22 May 1997  
Last Updated on STN: 9 Jul 1997

L6 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1992:528170 CAPLUS  
DN 117:128170  
TI Fructooligosaccharides in the tubers of Jerusalem artichoke and Yacon  
AU Wei, Baoyao; Hara, Masahiro; Yamauchi, Ryo; Ueno, Yoshimitsu; Kato, Koji  
CS Fac. Agric., Gifu Univ., Gifu, 501-11, Japan  
SO Gifu Daigaku Nogakubu Kenkyu Hokoku (1991), 56, 133-8  
CODEN: GNKEAH; ISSN: 0072-4513  
DT Journal  
LA Japanese

L6 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1966:53315 CAPLUS  
DN 64:53315  
OREF 64:10005c-d  
TI The metabolism of fructose polymers in plants Transfructosylation in  
tubers of \*\*\*Helianthus\*\*\* tuberosus  
AU Edelman, J.; Dickerson, A. G.  
CS Imp. Coll. Sci. Technol., London  
SO Biochemical Journal (1966), 98(3), 787-94  
CODEN: BIJOAK; ISSN: 0264-6021  
DT Journal  
LA English

L6 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1964:46826 CAPLUS  
DN 60:46826  
OREF 60:8279e-g  
TI Characteristics of an invertase-free .beta.-fructofuranosidase from  
\*\*\*Helianthus\*\*\* tuberosus  
AU Edelman, J.; Jefford, T. G.  
CS Imp. Coll. Sci. Technol., London  
SO Biochemical Journal (1963), 88(2), 36P-37P  
CODEN: BIJOAK; ISSN: 0264-6021  
DT Journal  
LA Unavailable

L6 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1964:46825 CAPLUS  
 DN 60:46825  
 OREF 60:8279d-e  
 TI Characteristics of a transfructosylase isolated from tubers of  
 \*\*\*Helianthus\*\*\* tuberosus  
 AU Edelman, J.; Dickerson, A. G.  
 CS Imp. Coll. Sci. Technol., London  
 SO Biochemical Journal (1963), 88(2), 35P-36P  
 CODEN: BIJOAK; ISSN: 0264-6021  
 DT Journal  
 LA Unavailable

=> s l1 and l2

L7 44 L1 AND L2

=> s 1-fructosyltransferase and plant

L8 62 1-FRUCTOSYLTRANSFERASE AND PLANT

=> duplicate remove l8

DUPLICATE PREFERENCE IS 'AGRICOLA, BIOSIS, EMBASE, CAPLUS'

KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n

PROCESSING COMPLETED FOR L8

L9 34 DUPLICATE REMOVE L8 (28 DUPLICATES REMOVED)

=> d l9 1-10 ti

L9 ANSWER 1 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

TI Distinct regulation of sucrose: sucrose- \*\*\*1\*\*\* -  
 \*\*\*fructosyltransferase\*\*\* (1-SST) and sucrose: fructan-6-  
 fructosyltransferase (6-SFT), the key enzymes of fructan synthesis in  
 barley leaves: 1-SST as the pacemaker

L9 ANSWER 2 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

TI Fructan production by transgenic beets expressing two different  
 fructosyltransferases

L9 ANSWER 3 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

TI Preparation of wheat fructan-fructan \*\*\*1\*\*\* -  
 \*\*\*fructosyltransferase\*\*\* and use of the enzyme for production of  
 fructan polymer

L9 ANSWER 4 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 DUPLICATE 1

TI Isolation and characterisation of a sucrose:sucrose \*\*\*1\*\*\* -  
 \*\*\*fructosyltransferase\*\*\* gene from perennial ryegrass (Lolium  
 perenne).

L9 ANSWER 5 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 DUPLICATE 2

TI Properties of Fructan:fructan \*\*\*1\*\*\* - \*\*\*fructosyltransferases\*\*\*  
 from chicory and globe thistle, two asteracean \*\*\*plants\*\*\* storing  
 greatly different types of inulin.

L9 ANSWER 6 OF 34 AGRICOLA Compiled and distributed by the National  
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(2004) on STN DUPLICATE 3

TI Patterns of fructan synthesized by onion fructan : fructan  
6G-fructosyltransferase expressed in tobacco BY2 cells--is fructan :  
fructan \*\*\*1\*\*\* - \*\*\*fructosyltransferase\*\*\* needed in onion?

L9 ANSWER 7 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

TI \*\*\*Plant\*\*\* transformation using enzymes and transport proteins  
involved soluble carbohydrate metabolism

L9 ANSWER 8 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
DUPLICATE 4

TI Molecular characterization of sucrose:sucrose \*\*\*1\*\*\* -  
\*\*\*fructosyltransferase\*\*\* and sucrose:fructan 6-fructosyltransferase  
associated with fructan accumulation in winter wheat during cold  
hardening.

L9 ANSWER 9 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

TI Sequence homologs of genes of \*\*\*plant\*\*\* fructan biosynthesis and  
their use in altering \*\*\*plant\*\*\* fructan metabolism

L9 ANSWER 10 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

TI Sugar-induced expression of wheat fructan synthesis genes and their  
promoter response to sugar signaling.

=> d 19 5 ab ibib

L9 ANSWER 5 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
DUPLICATE 2

AB Remarkably, within the Asteraceae, a species-specific fructan pattern can  
be observed. Some species such as artichoke (*Cynara scolymus*) and globe  
thistle (*Echinops ritro*) store fructans with a considerably higher degree  
of polymerization than the one observed in chicory (*Cichorium intybus*) and  
Jerusalem artichoke (*Helianthus tuberosus*). Fructan:fructan \*\*\*1\*\*\* -  
\*\*\*fructosyltransferase\*\*\* (1-FFT) is the enzyme responsible for chain  
elongation of inulin-type fructans. 1-FFTs were purified from chicory and  
globe thistle. A comparison revealed that chicory 1-FFT has a high  
affinity for sucrose (Suc), fructose (Fru), and 1-kestose as acceptor  
substrate. This makes redistribution of Fru moieties from large to small  
fructans very likely during the period of active fructan synthesis in the  
root when import and concentration of Suc can be expected to be high. In  
globe thistle, this problem is avoided by the very low affinity of 1-FFT  
for Suc, Fru, and 1-kestose and the higher affinity for inulin as acceptor  
substrate. Therefore, the 1-kestose formed by Suc:Suc \*\*\*1\*\*\* -  
\*\*\*fructosyltransferase\*\*\* is preferentially used for elongation of  
inulin molecules, explaining why inulins with a much higher degree of  
polymerization accumulate in roots of globe thistle. Inulin patterns  
obtained in vitro from 1-kestose and the purified 1-FFTs from both species  
closely resemble the in vivo inulin patterns. Therefore, we conclude that  
the species-specific fructan pattern within the Asteraceae can be  
explained by the different characteristics of their respective 1-FFTs.  
Although 1-FFT and bacterial levansucrases clearly differ in their ability  
to use Suc as a donor substrate, a kinetic analysis suggests that 1-FFT  
also works via a ping-pong mechanism.

ACCESSION NUMBER: 2003:504562 BIOSIS

DOCUMENT NUMBER: PREV200300507339

TITLE: Properties of Fructan:fructan \*\*\*1\*\*\* -

\*\*\*fructosyltransferases\*\*\* from chicory and globe  
thistle, two asteracean \*\*\*plants\*\*\* storing greatly  
different types of inulin.

AUTHOR(S): Vergauwen, Rudy; Van Laere, Andre; Van den Ende, Wim  
[Reprint Author]

CORPORATE SOURCE: Laboratory for Developmental Biology, K.U. Leuven, 3001,  
Leuven, Belgium  
wim.vandenende@bio.kuleuven.ac.be

SOURCE: Plant Physiology (Rockville), (September 2003) Vol. 133,  
No. 1, pp. 391-401. print.  
ISSN: 0032-0889 (ISSN print).

DOCUMENT TYPE: Article

LANGUAGE: English

ENTRY DATE: Entered STN: 29 Oct 2003  
Last Updated on STN: 29 Oct 2003

=> d 19 9 ibib ab

L9 ANSWER 9 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:923537 CAPLUS

DOCUMENT NUMBER: 136:51259

TITLE: Sequence homologs of genes of \*\*\*plant\*\*\* fructan  
biosynthesis and their use in altering \*\*\*plant\*\*\*  
fructan metabolism

INVENTOR(S): Spangenberg, German Carlos; Lidgett, Angela Jane;  
Johnson, Xenie Angela

PATENT ASSIGNEE(S): State of Victoria as Represented by Department of  
Natural Resources and Environment, Australia; The  
University of Adelaide; International Maize and Wheat  
Improvement Center; State of South Australia as  
Represented by South Australian Research and  
Development Institute; Southern Cross University

SOURCE: PCT Int. Appl., 139 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001095691	A2	20011220	WO 2001-AU705	20010614
WO 2001095691	A3	20020314		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 2001065676	A5	20011224	AU 2001-65676	20010614
EP 1305420	A2	20030502	EP 2001-942880	20010614
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			

PRIORITY APPLN. INFO.:

AU 2000-8155 A 20000614

WO 2001-AU705 W 20010614

AB The present invention relates to the modification of fructan biosynthesis in \*\*\*plants\*\*\* and, more particularly, to enzymes involved in the fructan biosynthetic pathway and nucleic acids encoding such enzymes. The present invention also relates to regulatory elements and, more particularly, to promoters capable of causing expression of an exogenous gene in \*\*\*plant\*\*\* cells, such promoters being from a gene encoding an enzyme involved in the fructan biosynthetic pathway in \*\*\*plants\*\*\*. The invention also relates to vectors including the nucleic acids and regulatory elements of the invention, \*\*\*plant\*\*\* cells, \*\*\*plants\*\*\*, seeds and other \*\*\*plant\*\*\* parts transformed with

the

regulatory elements, nucleic acids and vectors, and methods of using the nucleic acids, regulatory elements and vectors. CDNAs for sucrose:fructan 6-fructosyltransferase, fructan:fructan \*\*\*1\*\*\* - \*\*\*fructosyltransferase\*\*\*, and sucrose:sucrose \*\*\*1\*\*\* - \*\*\*fructosyltransferase\*\*\* were identified in libraries by probing with sequences from the corresponding barley genes. Expression of the cDNAs in *Pichia pastoris* resulted in the appearance of the fructosyltransferase activities. Reporter gene anal. of the function of the promoter of the sucrose:fructan 6-fructosyltransferase gene indicated that expression was limited to the leaf base and vascular tissue. Expression of the gene in tobacco resulted in the appearance of kestose in tissue exts. Detection of the mRNA and the protein in \*\*\*plant\*\*\* exts. was also demonstrated.

=> d 19 1-2

L9 ANSWER 1 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:193235 CAPLUS

TI Distinct regulation of sucrose: sucrose- \*\*\*1\*\*\* -

\*\*\*fructosyltransferase\*\*\* (1-SST) and sucrose: fructan-6-fructosyltransferase (6-SFT), the key enzymes of fructan synthesis in barley leaves: 1-SST as the pacemaker

AU Nagaraj, Vinay J.; Altenbach, Denise; Galati, Virginie; Luescher, Marcel; Meyer, Alain D.; Boller, Thomas; Wiemken, Andres

CS Zurich-Basel Plant Science Center, Botanisches Institut der Universitaet Basel, Basel, CH-4056, Switz.

SO New Phytologist (2004), 161(3), 735-748

CODEN: NEPHAV; ISSN: 0028-646X

PB Blackwell Publishing Ltd.

DT Journal

LA English

RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 2 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:6097 CAPLUS

DN 138:50882

TI Fructan production by transgenic beets expressing two different fructosyltransferases

IN Weynes, Guy; Lathouwers, Jean; Van Dun, Kees

PA Ses Europe N.V./S.A., Belg.; Advanta USA, Inc.

SO PCT Int. Appl., 26 pp.

CODEN: PIXXD2

DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003000854	A2	20030103	WO 2002-US19860	20020625
	WO 2003000854	A3	20040304		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	US 2004064852	A1	20040401	US 2003-415686	20030922
PRAI	US 2001-300741P	P	20010625		
	WO 2002-US19860	W	20020625		

=> d 19 11-20 ti

- L9 ANSWER 11 OF 34 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 5
- TI Transgenic potato (*Solanum tuberosum*) tubers synthesize the full spectrum of inulin molecules naturally occurring in globe artichoke (*Cynara scolymus*) roots.
- L9 ANSWER 12 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN DUPLICATE 6
- TI Cloning and functional analysis of sucrose:sucrose \*\*\*1\*\*\* - \*\*\*fructosyltransferase\*\*\* from tall fescue.
- L9 ANSWER 13 OF 34 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 7
- TI Drought induces fructan synthesis and 1-SST (sucrose: sucrose fructosyltransferase) in roots and leaves of chicory seedlings (*Cichorium intybus* L.).
- L9 ANSWER 14 OF 34 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 8
- TI Fructan accumulation induced by nitrogen deficiency in barley leaves correlates with the level of sucrose:fructan 6-fructosyltransferase mRNA.
- L9 ANSWER 15 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN DUPLICATE 9
- TI Disaccharide-mediated regulation of sucrose:fructan-6-fructosyltransferase, a key enzyme of fructan synthesis in barley leaves.

L9 ANSWER 16 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 DUPLICATE 10

TI Isolation of sucrose: Sucrose \*\*\*1\*\*\* - \*\*\*fructosyltransferase\*\*\*  
 (1-SST) from barley (Hordeum vulgare).

L9 ANSWER 17 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 TI The fermentative synthesis and hydrolysis of fructans.

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 of America. It contains copyrighted materials. All rights reserved.  
 (2004) on STN DUPLICATE 11

TI Cloning of sucrose:sucrose \*\*\*1\*\*\* - \*\*\*fructosyltransferase\*\*\* from  
 onion and synthesis of structurally defined fructan molecules from  
 sucrose.

L9 ANSWER 19 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 TI Production of 1-kestose in transgenic yeast expressing a  
 fructosyltransferase from Aspergillus foetidus.

L9 ANSWER 20 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 DUPLICATE 12

TI Differences in chain length distribution of inulin from Cynara scolymus  
 and Helianthus tuberosus are reflected in a transient \*\*\*plant\*\*\*  
 expression system using the respective 1-FFT cDNAs.

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ACCESSION NUMBER: 2001:13428 AGRICOLA

DOCUMENT NUMBER: IND22089600

TITLE: Transgenic potato (Solanum tuberosum) tubers  
 synthesize the full spectrum of inulin molecules  
 naturally occurring in globe artichoke (Cynara  
 scolymus) roots.

AUTHOR(S): Hellwege, E.M.; Czapla, S.; Jahnke, A.; Willmitzer,  
 L.; Heyer, A.G.

AVAILABILITY: DNAL (500 N21P)

SOURCE: Proceedings of the National Academy of Sciences of the  
 United States of America, July 18, 2000. Vol. 97, No.  
 15. p. 8699-8704  
 Publisher: Washington, D.C. : National Academy of  
 Sciences,  
 CODEN: PNASA6; ISSN: 0027-8424

NOTE: Includes references

PUB. COUNTRY: District of Columbia; United States

DOCUMENT TYPE: Article; Conference

FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension

LANGUAGE: English

L9 ANSWER 12 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 DUPLICATE 6

ACCESSION NUMBER: 2001:60964 BIOSIS

DOCUMENT NUMBER: PREV200100060964  
 TITLE: Cloning and functional analysis of sucrose:sucrose  
       \*\*\*1\*\*\* - \*\*\*fructosyltransferase\*\*\* from tall fescue.  
 AUTHOR(S): Luscher, Marcel; Hochstrasser, Urs; Vogel, Guido;  
           Aeschbacher, Roger; Galati, Virginie; Nelson, Curtis J.;  
           Boller, Thomas; Wiemken, Andres [Reprint author]  
 CORPORATE SOURCE: Botanisches Institut, University of Basel, Hebelstrasse 1,  
                   CH-4056, Basel, Switzerland  
                   andres.wiemken@unibas.ch  
 SOURCE: Plant Physiology (Rockville), (November, 2000) Vol. 124,  
           No. 3, pp. 1217-1227. print.  
           CODEN: PLPHAY. ISSN: 0032-0889.  
 DOCUMENT TYPE: Article  
 LANGUAGE: English  
 ENTRY DATE: Entered STN: 31 Jan 2001  
             Last Updated on STN: 12 Feb 2002

AB Enzymes of grasses involved in fructan synthesis are of interest since they play a major role in assimilate partitioning and allocation, for instance in the leaf growth zone. Several fructosyltransferases from tall fescue (*Festuca arundinacea*) have previously been purified (Luscher and Nelson, 1995). It is surprising that all of these enzyme preparations appeared to act both as sucrose (Suc):Suc 1-fructosyl transferases (1-SST) and as fructan:fructan 6G-fructosyl transferases. Here we report the cloning of a cDNA corresponding to the predominant protein in one of the fructosyl transferase preparations, its transient expression in tobacco protoplasts, and its functional analysis in the methylotrophic yeast, *Pichia pastoris*. When the cDNA was transiently expressed in tobacco protoplasts, the corresponding enzyme preparations produced 1-kestose from Suc, showing that the cDNA encodes a 1-SST. When the cDNA was expressed in *P. pastoris*, the recombinant protein had all the properties of known 1-SSTs, namely 1-kestose production, moderate nystose production, lack of 6-kestose production, and fructan exohydrolase activity with 1-kestose as the substrate. The physical properties were similar to those of the previously purified enzyme, except for its apparent lack of fructan:fructan 6G-fructosyl transferase activity. The expression pattern of the corresponding mRNA was studied in different zones of the growing leaves, and it was shown that transcript levels matched the 1-SST activity and fructan content.

=> d 19 21-34 ti

L9 ANSWER 21 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN  
 TI Sugar-transferring enzyme recombinant expression, polysaccharide modification in vitro and in transgenic \*\*\*plant\*\*\*, and uses in food and non-food industry  
  
 L9 ANSWER 22 OF 34 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 13  
 TI Transgenic potato tubers accumulate high levels of 1-kestose and nystose: functional identification of a sucrose sucrose \*\*\*1\*\*\* - \*\*\*fructosyltransferase\*\*\* of artichoke (*Cynara scolymus*) blossom discs.  
  
 L9 ANSWER 23 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

DUPLICATE 14

- TI Effects of short-term phosphorus deficiency on carbohydrate storage in sink and source leaves of barley (*Hordeum vulgare*).
- L9 ANSWER 24 OF 34 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 15
- TI Fructan and fructan-metabolizing enzymes in the growth zone of barley leaves.
- L9 ANSWER 25 OF 34 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 16
- TI Purification and characterization of the enzymes of fructan biosynthesis in tubers of *Helianthus tuberosus* Colombia. II. Purification of sucrose:sucrose \*\*\*1\*\*\* - \*\*\*fructosyltransferase\*\*\* and reconstitution of fructan synthesis in vitro with purified sucrose:sucrose \*\*\*1\*\*\* - \*\*\*fructosyltransferase\*\*\* and fructan:fructan \*\*\*1\*\*\* - \*\*\*fructosyltransferase\*\*\* .
- L9 ANSWER 26 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
- TI De-novo synthesis of fructans from sucrose in vitro by a combination of two purified enzymes (sucrose:sucrose 1-fructosyl transferase and fructan:fructan 1-fructosyl transferase) from chicory roots (*Cichorium intybus*)
- L9 ANSWER 27 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
- TI Inulin synthesis with purified fructosyl-transferases (SST and FFT) from Jerusalem artichoke tubers (*Helianthus tuberosus* L.).
- L9 ANSWER 28 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN DUPLICATE 17
- TI Inulin synthesis by a combination of purified fructosyltransferases from tubers of *Helianthus tuberosus*.
- L9 ANSWER 29 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
- TI Fructan synthesis in excised barley leaves: Identification of two sucrose-sucrose fructosyltransferases induced by light and their separation from constitutive invertases.
- L9 ANSWER 30 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
- TI THE DETECTION OF ISOKESTOSE AND NEOKESTOSE IN \*\*\*PLANT\*\*\* EXTRACTS BY CARBON-13-NMR SPECTROSCOPY.
- L9 ANSWER 31 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN DUPLICATE 18
- TI FRUCTOSYLTRANSFERASE AND INVERTASE ACTIVITIES IN LEAF EXTRACTS OF SIX TEMPERATURE GRASSES GROWN IN WARM AND COOL TEMPERATURES.
- L9 ANSWER 32 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
- TI PURIFICATION AND CHARACTERIZATION OF 1F FRUCTOSYL TRANSFERASE FROM THE ROOTS OF ASPARAGUS ASPARAGUS-OFFICINALIS.
- L9 ANSWER 33 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
- TI PURIFICATION AND CHARACTERIZATION OF SUCROSE SUCROSE 1 FRUCTOSYL

TRANSFERASE FROM THE ROOTS OF ASPARAGUS ASPARAGUS-OFFICINALIS.

L9 ANSWER 34 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN  
TI Sucrose fructosyltransferase from higher \*\*\*plant\*\*\* tissues

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---Logging off of STN---

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Executing the logoff script...

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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	63.98	64.46
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